

Incorporated in Victoria, 2014, Registration Number: A0061589C

The monthly magazine of the

North East Victoria Amateur Radio Club

<http://nevarc.org.au/>



An Affiliated club of Wireless Institute of Australia

An Affiliated club of Radio Amateur Society of Australia Inc.



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November

2022

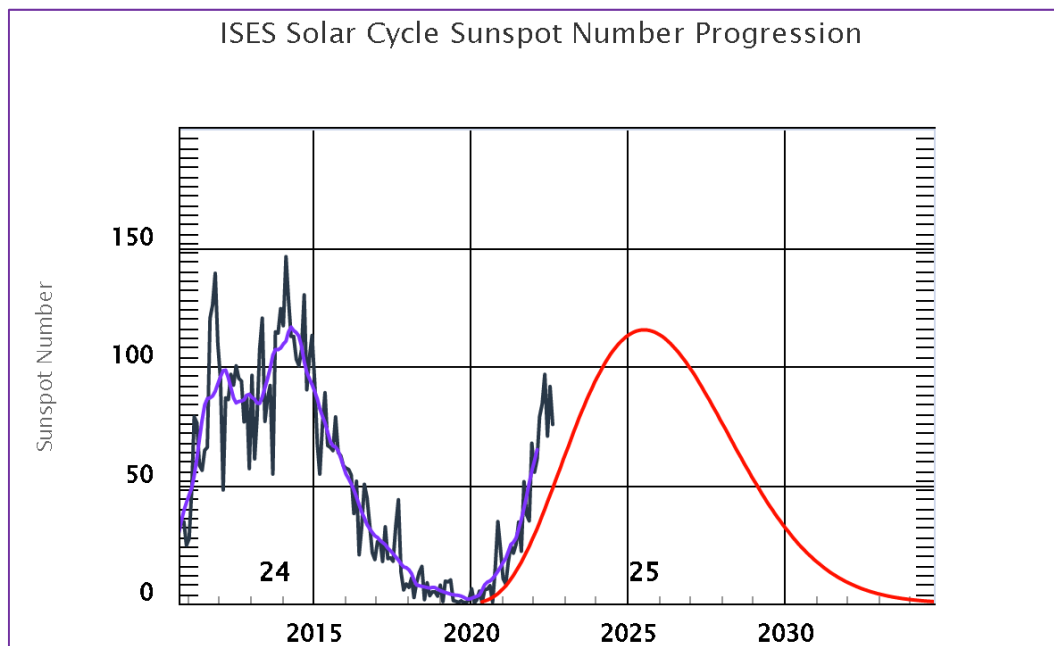
Next Meeting in November Sunday 13th

Belviour Guides Hall

6 Silva Drive West Wodonga

Meetings start with a 12.00pm BBQ lunch

Call in Via VK3RWO, 146.975, 123 Hz



Get that HF gear back on air, good DX is on the way, Cycle 25 is starting to peak up

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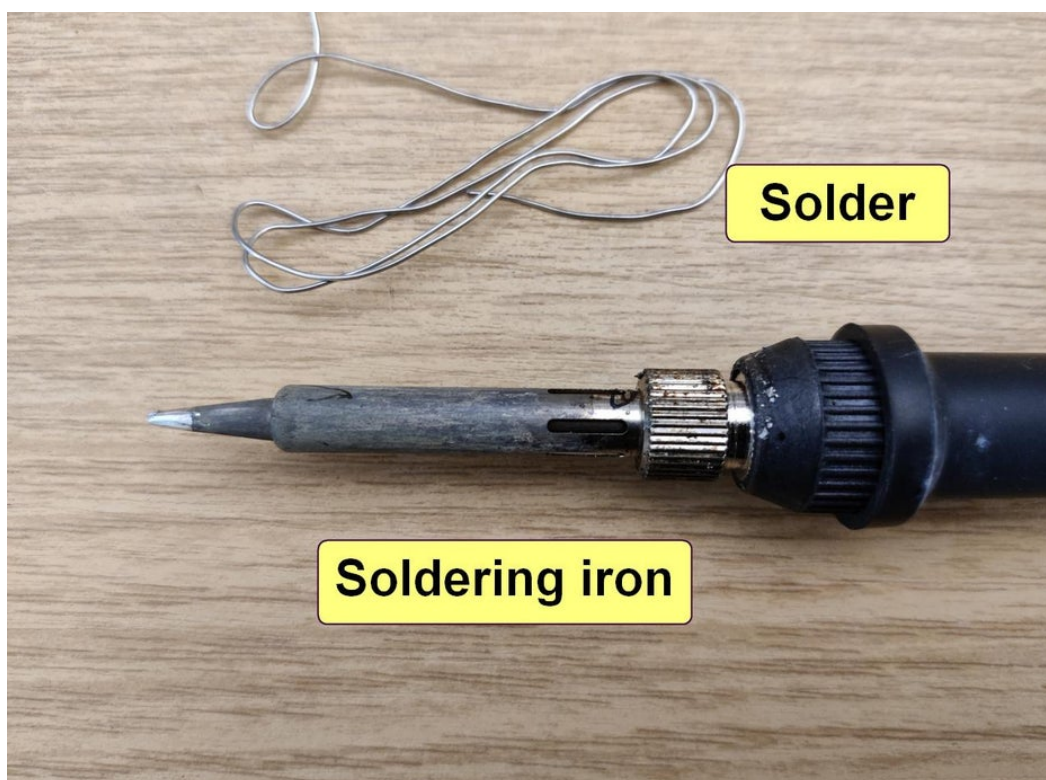
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Soldering Wires - Here's a Different Way

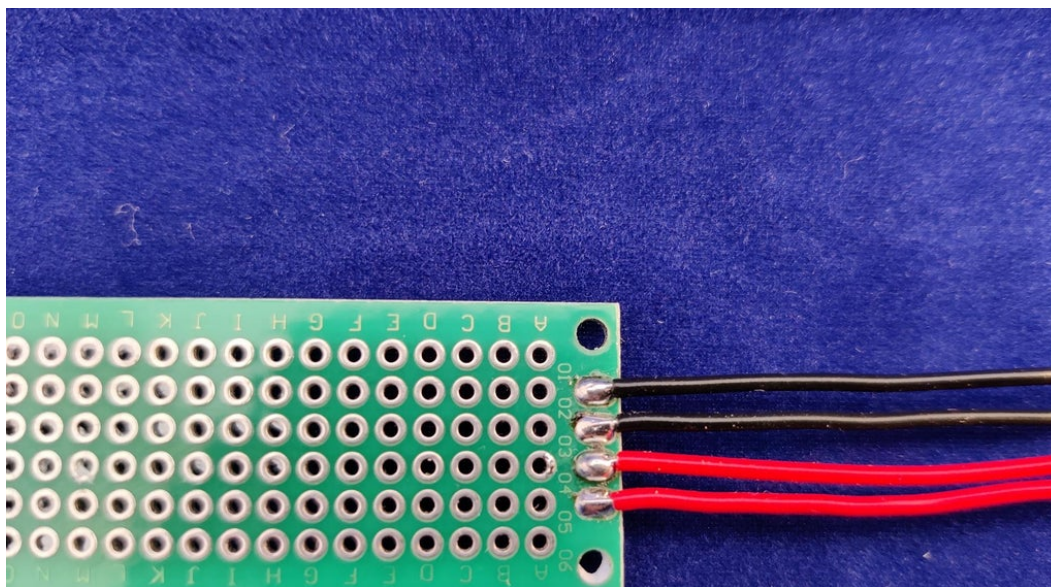
This is a easy method of soldering wires to circuit boards.

The solder feeds itself into the joint automatically so you don't need an extra hand to hold it.

This method also allows exact amounts of solder on each joint. And it's quick.

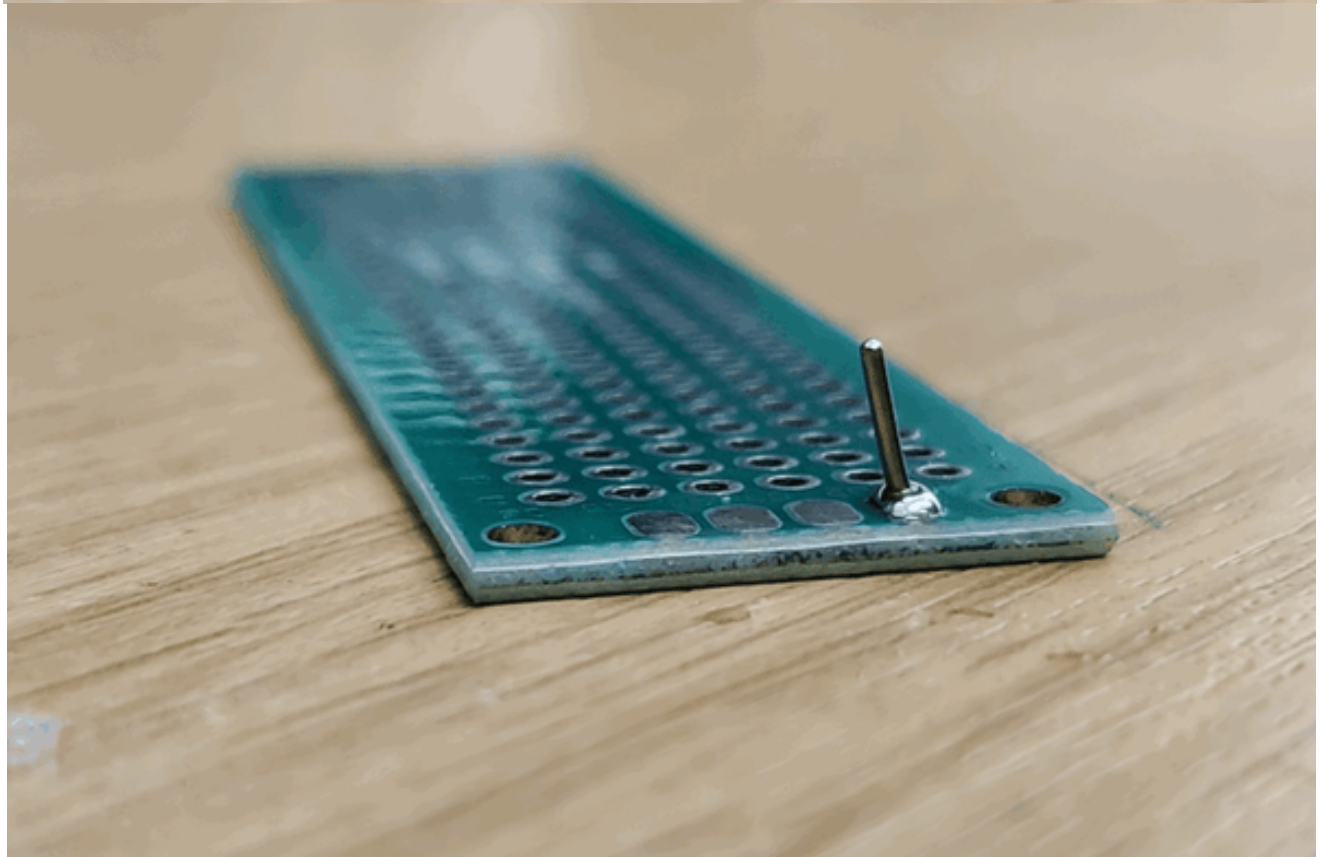
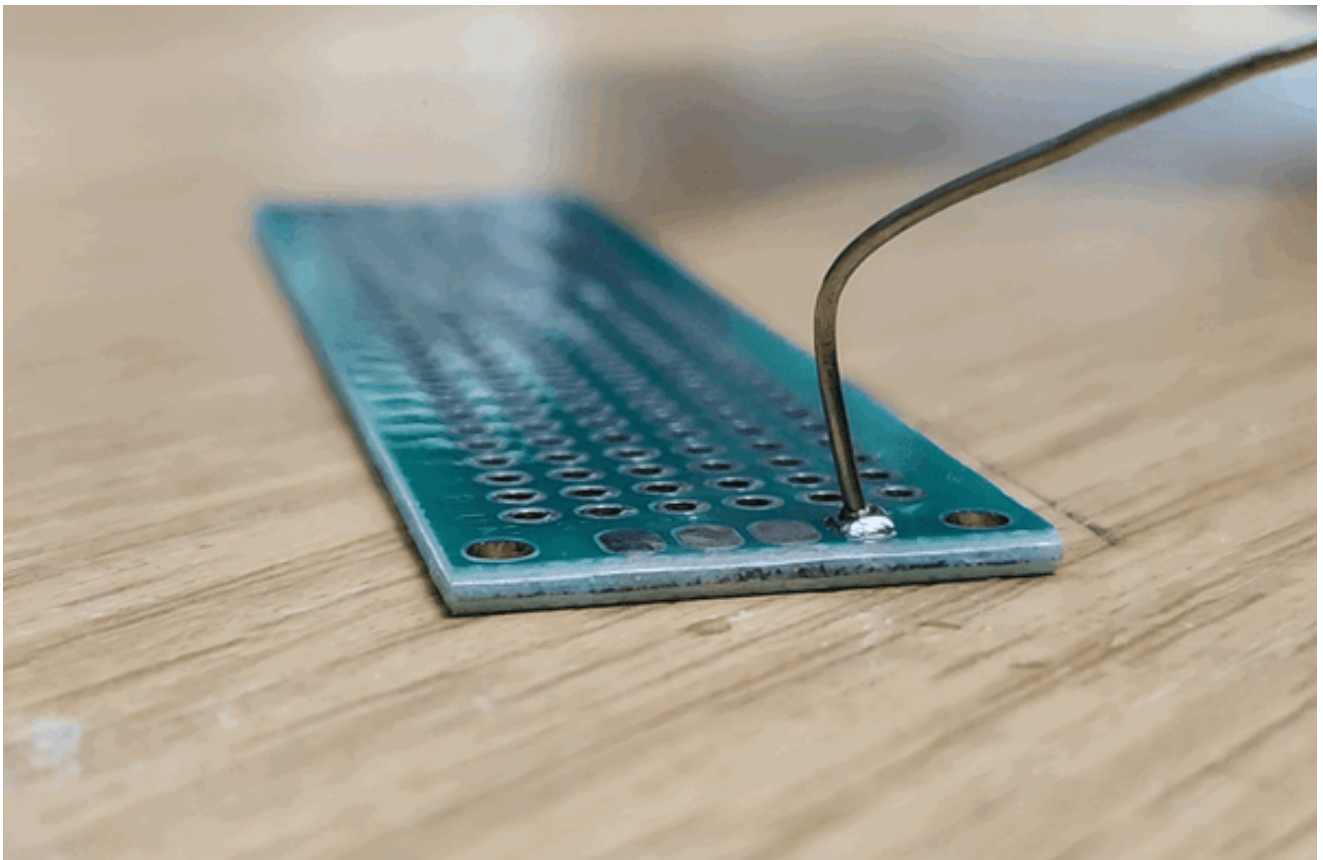


Nothing special required, just your soldering iron and solder. Oh, and your PCB and wires!

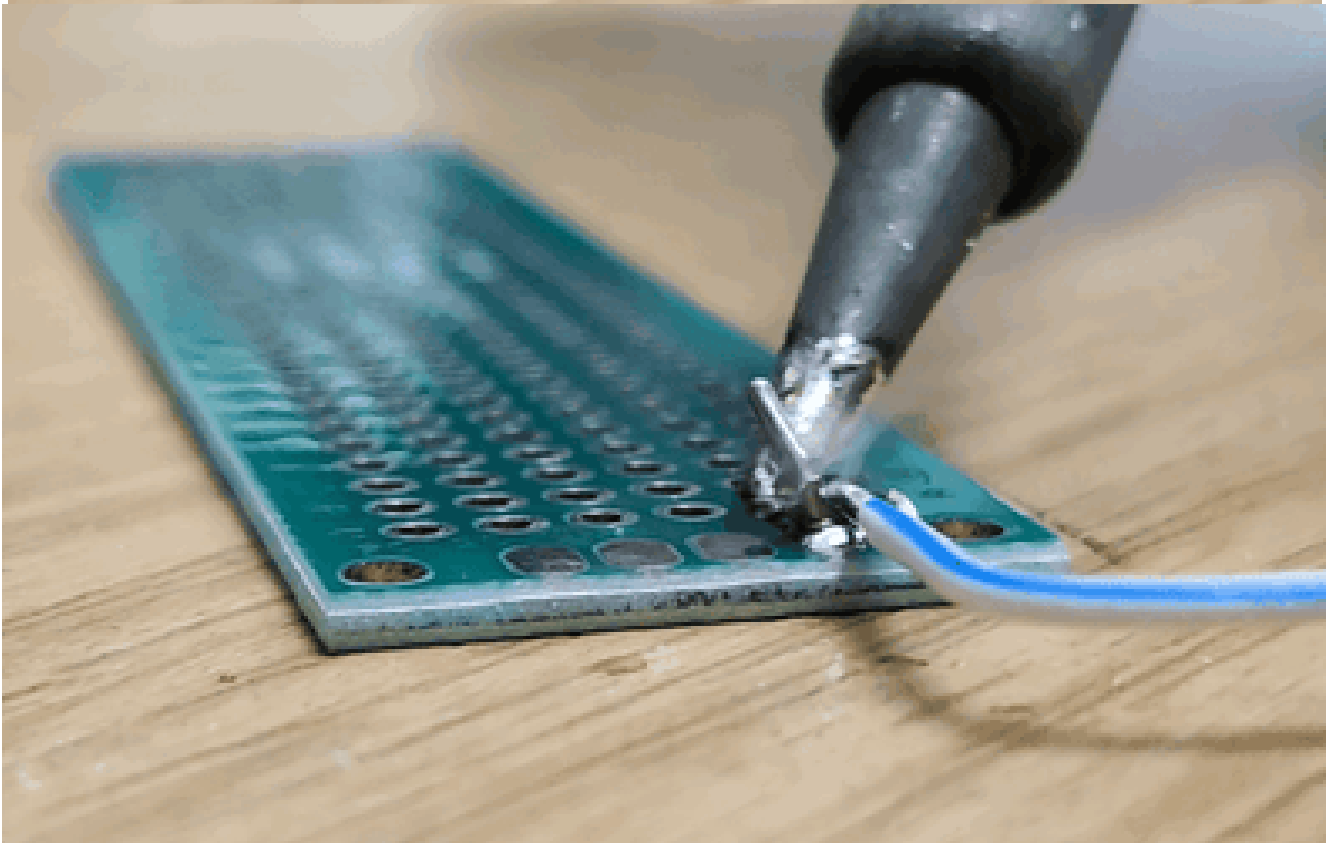
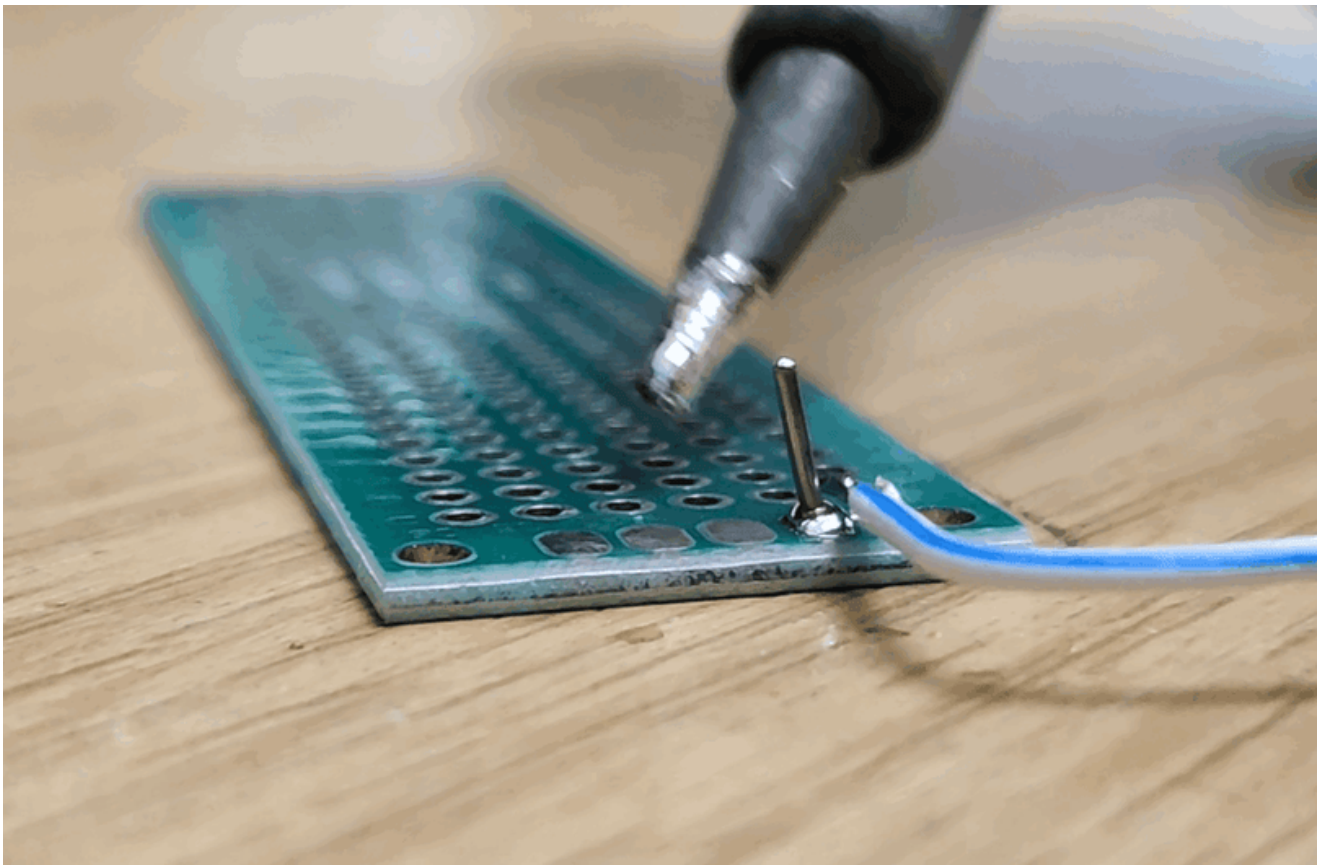


Use this method where you want to avoid 'spikey' joints and achieve speed and consistency of the joints.

So many times I see people using previously applied solder on a joint where the flux has already been used up. This can lead to 'spikey' solder joints. My method feeds in flux and new solder automatically at the correct speed and the correct quantity for the joint.

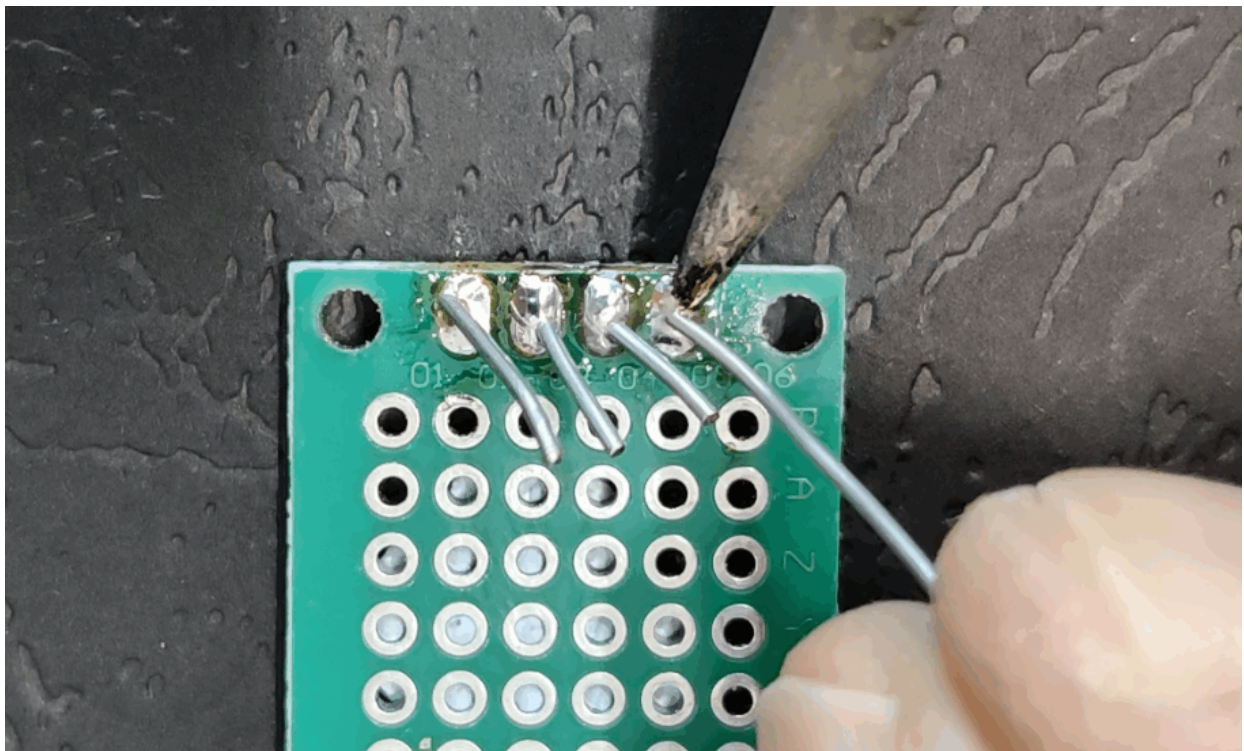


Instead of the solder being last to the joint, I apply it first and I make sure it's not all melted. I cut off the surplus to ensure the joint will have the correct amount of solder. Now's a good time to add solder lengths to the other pads that require wires.





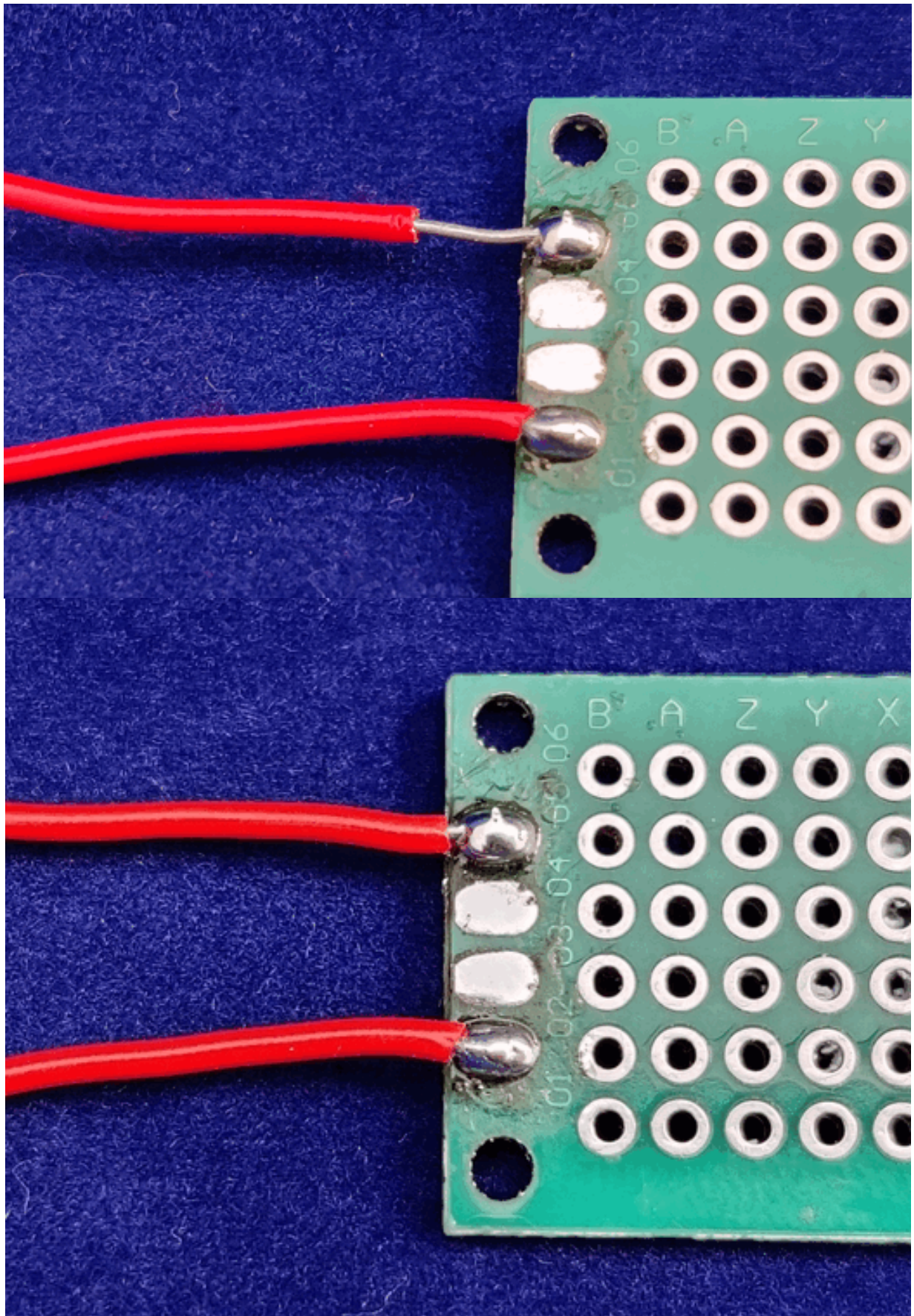
Offer up the wire to the joint followed by the iron. The solder melts and feeds into the joint super-quick



If you have lots of wires to connect, this is a real timesaver. Each joint can have a different amount of solder depending on its size.

Trimming off the length determines how much solder will be used, so it keeps you in full control here.

Not having to hold the solder gives you freedom to position each wire easily by hand.



Here is the last tip. Pull the sleeving back before soldering, and ease it back after the joint cools.

~Internet

What is solder made of?

Solder is a metal alloy used to create a permanent bond between metal parts. This is achieved by melting the solder and using it to create a joint. This requires solder to have a lower melting point than the pieces being joined. After the solder cools down, the parts are permanently connected.

Most electronics use solder to attach components to printed circuit boards (PCBs). Solder used in electronics needs to have favourable conductive properties.

Traditional solder is made of lead and tin. For many years, this alloy has been the standard used across the electronics industry. However, concerns have been raised about the health and environmental effects of leaded products. In the recent past, the use of lead-free solder alloys has become common.

Lead alloy solders

These solders are made of an alloy of lead and other metals. The most common mixture is 60% tin, 40% lead (or 63/37). Leaded solder has a low melting point (around 180° C). This makes it especially easy to work with. Lead alloy solders flow well and form strong bonds with other metals. Because of their properties, they are also known as soft solders. The presence of lead in the alloy inhibits the formation of tin whiskers.

Unfortunately, lead is a poisonous substance. It's very harmful to the human body. Also, it's hazardous waste and can contaminate soil and ground water. To answer the concerns raised about the use of lead, the EU implemented the Restriction of Hazardous Substances directive (2006). The directive restricts the use of lead alloy solder in consumer electronics produced in the EU.

Lead-free solders

These solders are made from many different metals. Tin is the most common base. It provides strength to the alloy. Other metals include silver, copper, nickel and antimony. Lead-free solders have higher melting points, compared to leaded ones. This has several side effects, including an increased stress on components during assembly. Also, lead-free solders do not flow as well as lead-based ones. Joints tend to be less strong.

To prevent such problems, manufacturers have developed solders with unique properties. Tin-silver-copper alloy, for instance, has a lower melting point (217° C). Using silver reduces oxidation, while copper improves conductivity and mechanical strength.

The formation of tin whiskers can be prevented by using conformal coatings or mixing nickel in the alloy.

Flux core solders

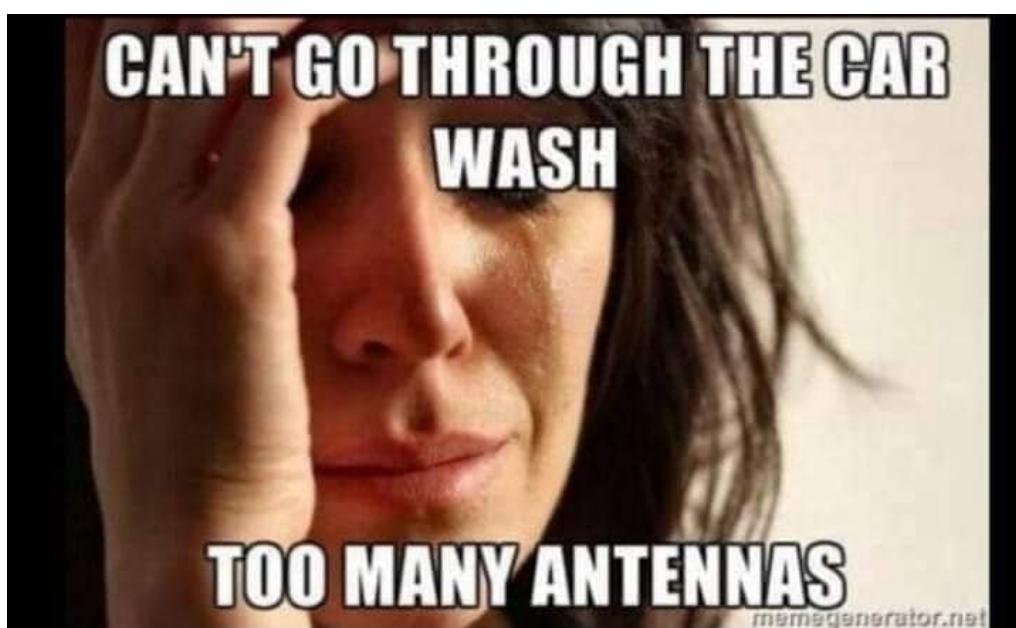
These solders are sold as a spool of wire. Regardless of the composition of the alloy, they all have flux at their core. Flux is a reducing agent. Its purpose is to remove oxides and impurities from metals. Using flux improves the conductivity and mechanical strength of the soldered joints. It also helps the flow of molten solder.

Flux core solders release the flux during the soldering process. There are two main types of flux. Rosin flux is used for electronics, because of its relatively low corrosiveness. Residues can be removed with isopropyl alcohol. Acid (or inorganic) flux is used for metal joining and plumbing. This type of flux is very corrosive and should not be used for electronics.

~Internet



Sorry! I couldn't resist





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GOT GEAR TO SELL?
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- PRELOVED
- INFO STANDS
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5TH/6TH NOVEMBER 2022
UNIVERSITY OF TASMANIA - UNIVERSITY CENTRE
STANLEY BURBURY FOYER & STUDIO THEATRE
DOBSON ROAD - SANDY BAY (LOTS OF PARKING)

REGISTER VIA EVENTBRITE
MORE INFO: WWW.REAST.ASN.AU
EMAIL: TASSIEHAMEXPO@GMAIL.COM

SPONSORED BY:







5-6 November 2022

**Sir Stanley Burbury
Theatre
Sandy Bay Campus
University of Tasmania**



Saturday 5th November 2022 - Ham Conference

Speakers from across VK and the World including:
Youth Engagement, Remote Stations,
Electrical and RF safety. Low Power Portable EME,
QRP SOTA POTA WWFF, Interference mitigation,
Digital Amateur TV, Microwave Experimentation,
and more!

These will be delivered both In-person and Online and
the conference will be streamed via Zoom.

Sunday 6th November 2022 – Ham Expo

Amateur Radio Vendors and Traders including:
ICOM, All About DX, and more
Preloved equipment tables, Fox Hunts,
Raffles, Information Stands - ALARA, Parks, SOTA,
ROAR and many more!

Book @ WWW.REAST.ASN.AU
Email: tassiehamexpo@gmail.com



Tassie Ham Conference and Expo



ROSEBUD RADIOFEST

SUNDAY NOVEMBER 20, 2022

BOOK YOUR TABLES NOW!



Eastbourne Primary School Auditorium Allambi Avenue Rosebud Victoria
Talk in on VK3RSP (146.675) from 8.00 AM - Melways Ref: Map 169 K5
More information on www.rosebudradiofest.com

Traders set-up from 7.00 am

Outdoor displays, Food, & Entry ticket sales from 8.00 am

Entry to the Auditorium and Equipment Sales area from 9.30 am until 1.30 pm

Technical Forums commence at 10.30 am

Mystery Major Door Prizes drawn at 12.00 midday

Entry \$6.00 (Under 12's free) - Includes one entry into the Door Prize

Additional Door Prize Tickets \$1.00 each (optional)

Excellent Catering - Disabled Facilities - Parking Onsite - All Weather Event

Traders Tables available @ \$10.00 each

Bookings only available via the online portal at :

www.rosebudradiofest.com—follow the prompts

Enquiries: Mark VK3PDG

Phone 0407 844 063

markybradio@gmail.com

Or Grant VK3GDC

Phone 0418587424

treasurer@sparc.asn.au

Featuring:

Technical Forums

Commercial Traders

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Door Prizes

Ham Radio Vehicles

Emergency Services Comms

Vintage Radio Displays

ALARA

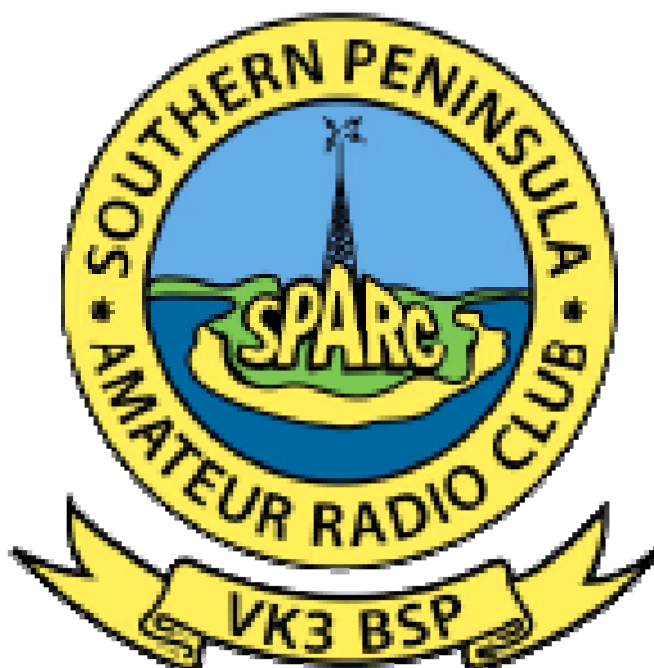
Home Brew Equipment

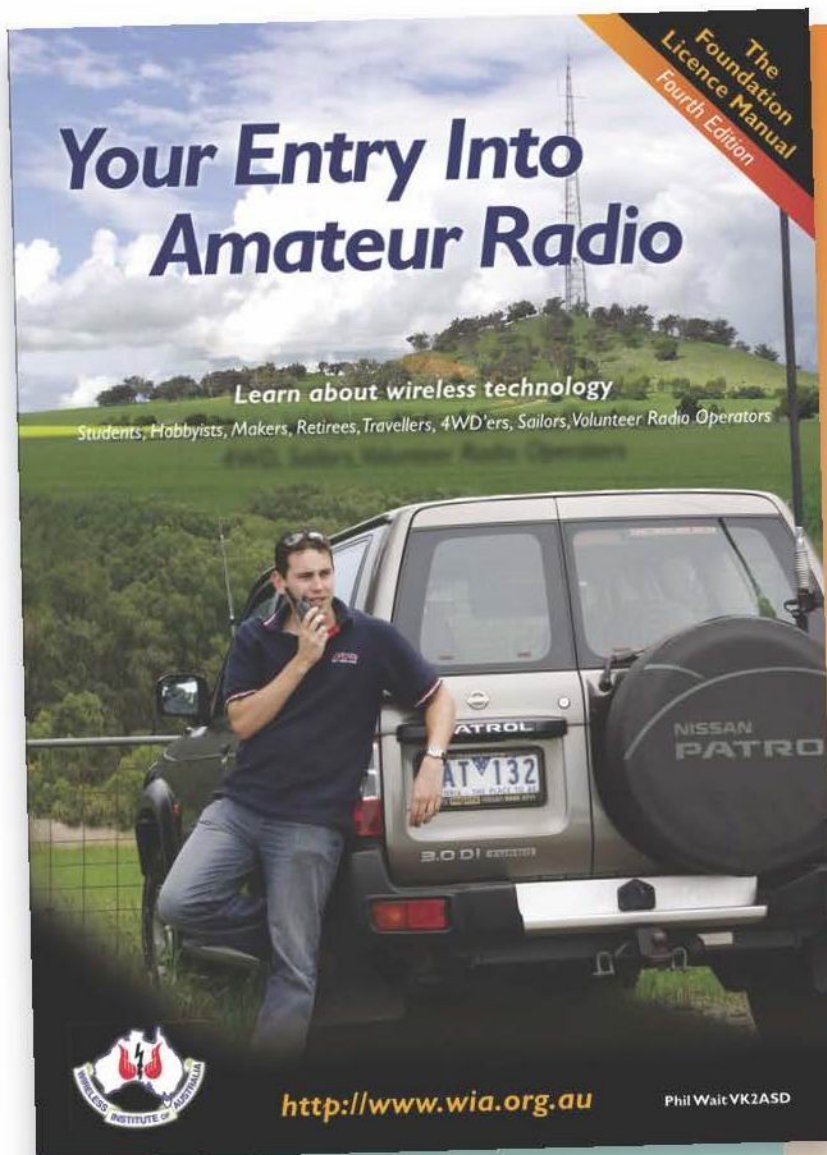
WICEN

Software Defined Radio

WIA

RASA





It's here!

With publication of the **4th Edition** of the **Foundation Licence Manual**, anyone interested in getting an Australian amateur radio licence is *assured* that all the information necessary to completing their licence examination *successfully* is covered.

The amateur Foundation licence has gained a wide range of technical and operating privileges over recent years, *while remaining an entry-level licence*. The examination curriculum has been updated to cover this.

Meanwhile, the *highly successful* WIA Foundation Licence Manual – ***Your Entry Into Amateur Radio*** – has been *revised and updated* to meet the needs of today's prospective amateurs.

Like previous editions, it is intended both as a study guide for obtaining your licence, and as a basic introduction to wireless technology.

It is also an excellent *Reference Source* as it includes information on Band Plans, Electrical Safety, operating procedures such as the Q code, using repeaters, how to contact your local radio club, the WIA, and much more.

Retail price: \$35

(includes GST), postage: **\$15**

This 4th Edition now also includes:

- decibels
- introduction to AC theory
- capacitors, inductors and resonance
- digital communication modes and techniques
- analog-digital converters (ADCs)
- digital-analog converters (DACs)
- software-defined radios (SDRs) and more.

Members' price: \$25

(includes GST), postage: **\$15**

Or, buy it from your local amateur radio club or directly from the WIA website: <https://tinyurl.com/mu4stafm>

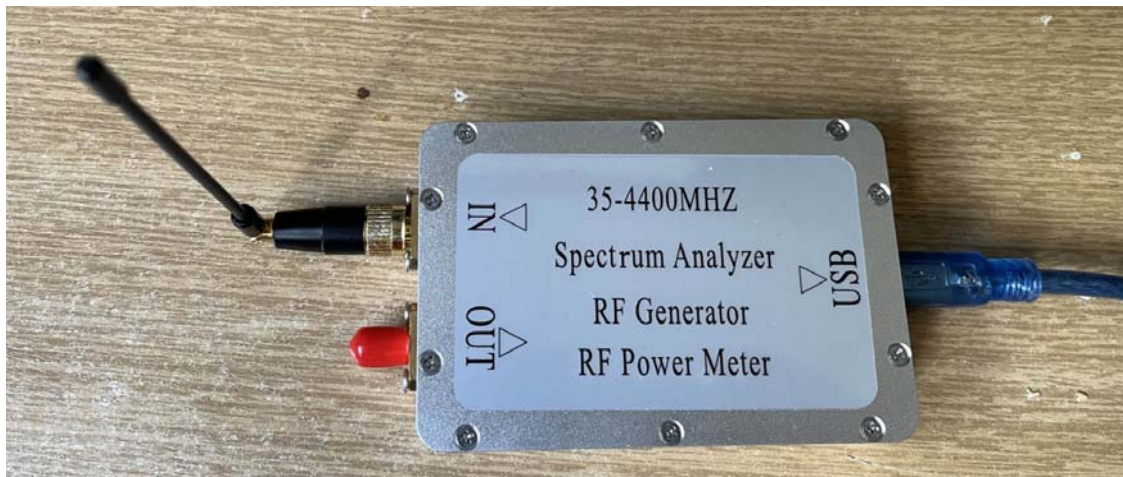
WIA-affiliated clubs can buy box quantities of 21 manuals; postage is \$25 per box.

Non-affiliated clubs are welcome to buy box lots, also. Postage is \$35 per box.

Cheap RF Spectrum Analyser NWT4000-2

Electronics is certainly getting cheaper and smaller.

Some of the DATV operators found this on the internet, about \$60 posted.



Overview NWT4000-2

Sweep Features

- ★ 35MHz-4400MHz - 35MHz - 4400MHz range of fast and accurate measurement
- ★ Dynamic range: >70dB
- ★ Software calibration function to reduce the system error
- ★ Directly display 3dB, 6dB, 60dB bandwidth
- ★ Curves of maximum minimum value display, with cursor
- ★ VFO output
- ★ Power meter function
- ★ SWR measurement
- ★ SWR measurement of Antenna with coax feed line simulation
- ★ Impedance measurement
- ★ Spectrum Analyzer 35MHz- 4.4GHz
- ★ Print of measurement data and curve

The link to the that Spectrum Analyser from AliExpress, currently \$55.36 AU

[DYKB 35 4400Mhz signal generator Simple Spectrum Analyzer frequency Sweep source RF power meter USB PC Software control | - AliExpress](#)

The Software written by DL4JAL and is called **NWT4000/6000** which you can find here on the left side of the webpage under “Home”... [Homepage DL4JAL NWT QRP Measurement Technology](#)

An 85 page document for the above Program can be found here:- [TD1262L/C 数字化扫频仪 \(hamcom.dk\)](#)

It installed okay on Windows 11 and 10.

VK3RTV Update

The upgrade to the Controllers is almost finished. This version will talk directly to the Combo Receivers via an RS232 link and signal detect using one cable. Each Antenna will be connected to the Satellite Input and the Down-Converter Input using a Splitter. The Down Converters will be programmed to output CH28 and feed the PAL input of the Combos. The Controller will poll each input in turn, responding to a decoded signal. In the event that the Down Converter option does not work and additional receivers are required for DVB-T, the Controllers can still be used as is.

At this stage I only have one Down-Converter which was donated by Rob VK3TRX and 1278 Mhz will be the first to go operational. I still need more two tin boxes such as the old DVB-T Strong Boxes, ideal to put Down-Converters in. The Combos sit on top.

The advantages of the upgrade are

1. Supports both DVB/S/S2 and DVB-T.
2. Signal Reports are available for both DVB-S/S2 and DVB-T via DTMF.
3. Only four Receivers required.
4. A lot less cables at the back of the Rack.
5. The Receiver's switches HDMI, therefore only 4 HDMI Receiver Leads.
6. All service areas will have both DVB/S/S2 and DVB-T including the new SW beam towards Geelong
7. Two Spare Ports in the Controllers available for other possible inputs.

Also ... I have improved the 'Break In' mode.

This is available immediately you see the 'No Signal' sign from the respective Receiver in DVB/S/S2 OR DVB-T mode. A change of mode will require a slightly longer wait. I will need to tweak the software by experiment to make polling as fast as possible but initial key up may be a bit longer.

Regards Peter VK3BFG

Honest Advertising?



Expressions

You probably use tons of expressions, idioms, proverbs, and slang phrases every day that don't make literal sense. If you ever thought long and hard about why you say something a certain way, you could probably make a guess. However, some English expressions are so unusual that it is impossible to guess where on earth they originated from — unless you know the history.

Bite the bullet

Meaning: To accept something difficult or unpleasant

Origin: In the olden days, when doctors were short on anesthesia or time during a battle, they would ask the patient to bite down on a bullet to distract from the pain. The first recorded use of the phrase was in 1891 in *The Light that Failed*.

Break the ice

Meaning: To break off a conflict or commence a friendship.

Origin: Back when road transportation was not developed, ships would be the only transportation and means of trade. At times, the ships would get stuck during the winter because of ice formation. The receiving country would send small ships to “break the ice” to clear a way for the trade ships. This gesture showed affiliation and understanding between two territories.

Butter someone up

Meaning: To impress someone with flattery

Origin: This was a customary religious act in ancient India. The devout would throw butter balls at the statues of their gods to seek favor and forgiveness.

Mad as a hatter

Meaning: To be completely crazy

Origin: No, you didn't already know this one, because it didn't originate from Lewis Carroll's *Alice in Wonderland*. Its origins date from the 17th and 18th centuries — well before Lewis Carroll's book was published. In 17th century France, poisoning occurred among hat makers who used mercury for the hat felt. The “Mad Hatter Disease” was marked by shyness, irritability, and tremors that would make the person appear “mad.”

Cat got your tongue?

Meaning: Asked to a person who is at loss of words

Origin: The English Navy used to use a whip called “Cat-o'-nine-tails” for flogging. The pain was so severe that it caused the victim to stay quiet for a long time. Another possible source could be from ancient Egypt, where liars' and blasphemers' tongues were cut out and fed to the cats. (What a treat for the cats!)

Barking up the wrong tree

Meaning: To have misguided thoughts about an event or situation, a false lead

Origin: This refers to hunting dogs that may have chased their prey up a tree. The dogs bark, assuming that the prey is still in the tree, when the prey is no longer there.

Turn a blind eye

Meaning: To ignore situations, facts, or reality

Origin: The British Naval hero, Admiral Horatio Nelson, had one blind eye. Once when the British forces signaled for him to stop attacking a fleet of Danish ships, he held up a telescope to his blind eye and said, "I do not see the signal." He attacked, nevertheless, and was victorious.

Bury the hatchet

Meaning: To stop a conflict and make peace

Origins: This one dates back to the early times North America when the Puritans were in conflict with the Native Americans. When negotiating peace, the Native Americans would bury all their hatchets, knives, clubs, and tomahawks. Weapons were literally buried and made inaccessible.

Caught red-handed

Meaning: To be caught in the act of doing something wrong

Origin: This originates from an old English law that ordered any person to be punished for butchering an animal that wasn't his own. The only way the person could be convicted is if he was caught with the animal's blood still on his hands.

Don't throw the baby out with the bathwater

Meaning: Don't get rid of valuable things along with the unnecessary ones.

Origin: You won't believe this one! In the early 1500s, people only bathed once a year. Not only that, but they also bathed in the same water without changing it! The adult males would bathe first, then the females, leaving the children and babies to go last. By the time the babies got in, the water was clouded with filth. The poor mothers had to take extra care that their babies were not thrown out with the bathwater.

Give a cold shoulder

Meaning: Being unwelcoming or antisocial toward someone

Origin: In medieval England, it was customary to give a guest a cold piece of meat from the shoulder of mutton, pork, or beef chop when the host felt it was time for the guest to leave. This was a polite way to communicate, "You may leave, now."

Go the whole nine yards

Meaning: To try your best at something

Origin: During World War II, the fighter pilots were equipped with nine yards of ammunition. When they ran out, it meant that they had tried their best at fighting off the target with the entirety of their ammunition.

Let one's hair down

Meaning: To relax or be at ease

Origin: In public, the aristocratic women of medieval times were obliged to appear in elegant hair-dos that were usually pulled up. The only time they would "let their hair down" was when they came home and relaxed.

~Internet

Handy Guide to Modern Science:

1. If it's green or it wriggles, it's biology.
2. If it stinks, it's chemistry.
3. If it doesn't work, it's physics.

Cerf's Extensions to the Handy Guide to Modern Science:

4. If it's incomprehensible, it's mathematics.
5. If it doesn't make sense, it's either economics or psychology.

Rules of the Lab:

1. When you don't know what you're doing, do it neatly.
2. Experiments must be reproducible, they should fail the same way each time.
3. First draw your curves, then plot your data.
4. Experience is directly proportional to equipment ruined.
5. A record of data is essential, it shows you were working.
6. To study a subject best, understand it thoroughly before you start.
7. To do a lab really well, have your report done well in advance.
8. If you can't get the answer in the usual manner, start at the answer and derive the question.
9. If that doesn't work, start at both ends and try to find a common middle.
10. In case of doubt, make it sound convincing.
11. Do not believe in miracles — rely on them.
12. Team work is essential. It allows you to blame someone else.
13. All unmarked beakers contain fast-acting, extremely toxic poisons.
14. Any delicate and expensive piece of glassware will break before any use can be made of it.
(Law of Spontaneous Fission)

The Snafu Equations:

1. Given any problem containing N equations, there will be $N+1$ unknowns.
2. The object or bit of information most needed will be least available.
3. The device requiring service or adjustment will be least accessible.
4. In any human endeavor, once you have exhausted all possibilities and failed, there will be one solution, simple, obvious, and highly visible to everyone else.
5. Badness comes in waves.
6. Interchangeable devices won't.

Murphy's Laws on Technology

A big enough hammer fixes anything.

A complex system that works is invariably found to have evolved from a simple system that works.

A failure will not appear until a unit has passed final inspection.

A piece of electronic equipment is housed in a beautifully designed cabinet, and at the side or on top is a little box containing the components which the designer forgot to make room for.

After all is said and done, a hell of a lot more is said than done.

All warranty and guarantee clauses become invalid upon payment of the final invoice.

Murphy's Laws on Computers, Software, and Programming

A computer makes as many mistakes in two seconds as twenty people working twenty years.

All components become obsolete.

Any cool program always requires more memory than you have.

Brook's Law: Adding manpower to a late software project makes it later.

Disks are always full. It is futile to try to get more disk space. Data expands to fill any void.

Dr. Caligari's Come-Back: A bad sector disk error occurs only after you've done several hours of work without performing a backup.

Failure is not an option. It comes bundled with the software.

Forty-third Law of Computing: Anything that can go wr—

Franklin's Rule: Blessed is the end user who expects nothing, for he/she will not be disappointed.

Gilb's Laws Of Unreliability:

1. At the source of every error which is blamed on the computer you will find at least two human errors, including the error of blaming it on the computer.
2. Any system which depends on human reliability is unreliable.
3. Undetectable errors are infinite in variety, in contrast to detectable errors, which by definition are limited.
4. Investment in reliability will increase until it exceeds the probable cost of errors, or until someone insists on getting some useful work done.

Hinds' Law Of Computer Programming

1. Any given program, when running, is obsolete.
2. If a program is useful, it will have to be changed.
3. If a program is useless, it will have to be documented.
4. Any given program will expand to fill all available memory.
5. The value of a program is proportional to the weight of its output.
6. Program complexity grows until it exceeds the capability of the programmer who must maintain it.
7. Make it possible for programmers to write programs in English, and you will find that programmers cannot write in English.

If a program actually fits in memory and has enough disk space, it is guaranteed to crash.

Corollary: If such a program has not crashed yet, it is waiting for a critical moment before it crashes.

Law of Cybernetic Entomology: There is always one more bug.

No matter how good a deal you get on computer components, the price will always drop immediately after the purchase.

No matter how many resources you have, it is never enough.

Software bugs are impossible to detect by anybody except the end user.

The speed with which components become obsolete is directly proportional their price.

~Internet

*Some days you're the dog,
some days you're the hydrant*

*If a man steals from you once,
he's a fool;*

*if a man steals from you twice,
you're the fool;*

*if he steals from you thrice,
the odds are eight to five the thief
and the agency charged with the
theft protection are one and the same*

*Assumption is the mother of all
screw-ups*

Australia Ham Radio 40 Meter Net



7 Days a Week
10am Local time
(East coast)

7.100 MHz LSB

Approximately + or – QRM

Hosted by Ron VK3AHR

NEVARC 2 Meter Net

Net Control VK3ANE

NEVARC Linked Repeaters

VK2RWD, VK3RWO, VK3RWC

Wednesday - 8.00pm

Local time

President, VK3VS, Matt
Vice President, VK2VU, Gary
Secretary, VK2BFC, Frank
Treasurer, Amy Bilston



NEVARC CLUB PROFILE

History

The North East Victoria Amateur Radio Club (NEVARC) formed in 2014.
As of the 7th August 2014, Incorporated, Registered Incorporation number A0061589C.
NEVARC is an affiliated club of the Wireless Institute of Australia and The Radio Amateur Society of Australia Inc.

Meetings

Meetings details are on the club website, the Second Sunday of every month, check for latest scheduled details.
Meetings held at the Belviour Guides Hall, 6 Silva Drive West Wodonga.
Meetings commence with a BBQ (with a donation tin for meat) at 12pm with meeting afterwards.
Members are encouraged to turn up a little earlier for clubroom maintenance.
Call in Via VK3RWO, 146.975, 123 Hz tone.

NEVARC NETS

HF

7.100 MHz 7 Days a Week - 10am Local time

VHF

VK2RWD Wednesday - 8.00pm Local time NEVARC Linked Repeaters: VK2RWD, VK3RWO, VK3RWC

Benefits

To provide the opportunity for Amateur Radio Operators and Short Wave Listeners to enhance their hobby through interaction with other Amateur Radio Operators and Short Wave Listeners. Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of likeminded radio and electronics enthusiasts. Excellent club facilities and environment, ample car parking.

Website: www.nevarc.org.au

Postal: NEVARC Secretary
PO Box 8006
Birallee Park
Wodonga Vic 3690

Facebook: www.facebook.com/nevicARC/



All editors' comments and other opinions in submitted articles may not always represent the opinions of the committee or the members of NEVARC, but published in spirit, to promote interest and active discussion on club activities and the promotion of Amateur Radio.

Contributions to NEVARC News are always welcome from members.

Email attachments of Word™, Plain Text, Excel™, PDF™ and JPG are all acceptable.

You can post material to the Post Office Box address at the top of this page, or email magazine@nevarc.org.au

Please include a stamped self-addressed envelope if you require your submission notes returned.

Email attachments not to exceed 5 Mb in file size. If you have more than 5 Mb, then send it split, in several emails to us.

Attachments of (or thought to be) executable code or virulently affected emails will not be opened.

Other persons or radio clubs may edit or copy out such as they like from the magazine but a reference to NEVARC News is appreciated, except copyrighted (©) material or as otherwise indicated.

Other articles credited to outside sources should ask for their permission if they are used.

While we strive to be accurate, no responsibility taken for errors, omissions, or other perceived deficiencies, in respect of information contained in technical or other articles.

Any dates, times and locations given for upcoming events please check with a reliable source closer to the event.

This is particularly true for pre-planned outdoor activities affected by adverse weather etc.

The club website <http://nevarc.org.au> has current information on planned events and scheduled meeting dates.

You can get the WIA News sent to your inbox each week by simply clicking a link and entering your email address found at www.wia.org.au. The links for either text email or MP3 voice files are there as well as Podcasts and Twitter. This WIA service is FREE.